



## **COVID-19 Outbreak Control and Prevention State Cell**

### **Health & Family Welfare Department**

#### **Government of Kerala**

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### **Framework for Health System Preparedness for managing natural calamities in the context of COVID-19 in Kerala**

**NO: 31/F2/2020/Health- 7<sup>th</sup> August 2020**

#### **Background**

The WHO has declared COVID-19 as a pandemic. Kerala had reported the first case in India on January 30<sup>th</sup> 2020. With proper identification of individuals with risk, rigorous contact tracing, ensuring good quality home isolation, testing all eligible individuals and providing high quality care to COVID cases, Kerala state had managed to contain the COVID -19 epidemic till date.

Kerala had experienced a massive flood of Level 3 Calamity in 2018. There were major landslides which left many hilly habitats isolated in 2019. Indian Meteorological Department predicted a high probability of rainfall being above normal to excess in Kerala.

Floods can lead to disruption of health sector programmes and essential services. The impact due to flood/landslides could be minimised if the affected communities were better prepared, with an organized scalable response system already in place. Natural calamities in the context of COVID poses many additional challenges- both for COVID control and mitigation of calamity. The health system needs to be prepared to face any calamity in the context of COVID. The document narrates the framework for health system preparedness for mitigation of flood in the context of COVID.

#### **Health Effects of Flood/Landslides**

Health effects occur directly through contact with flood waters or indirectly from damage to infrastructure, ecosystems, food and water supplies or social support systems. They can be immediate or can appear days, weeks or months after the floods have receded.

**Immediate health impacts of floods/landslides:** Drowning, injuries, hypothermia, and animal bites. Health risks also are associated with the evacuation of patients, loss of health workers, and loss of health infrastructure including essential drugs and supplies.



**Medium-term impacts:** Infected wounds, complications of injury, poisoning, poor mental health, communicable diseases, and starvation.

**Long Term impacts:** Chronic disease, disability, poor mental health, and poverty-related diseases including malnutrition are the potential legacy.

### **Special Challenges- Flood/landslides in the context of COVID**

1. Exclusive institutions caring for COVID [COVID Hospitals, COVID First Line Treatment Centres, COVID Care Centres] may get affected by flood.
2. Mixing of people in quarantine and normal population to be prevented.
3. Chance of spreading COVID very high in relief camps due to overcrowding
4. Overflow of health care facilities due to coexistence of COVID, Injuries due to flood and possible increase in communicable diseases.

### **Health System Preparedness- Framework for Planning**

#### **1. Health Care Institutions**

22 health care institutions were totally damaged in the Kerala floods 2018. Many of them were to shut down temporarily. In these context institutions need to get prepared. Damage to health care infrastructure can lead to loss of access to essential care.

- a) List out institutions located in flood/landslides prone areas.
- b) Make a written plan to shift medical records, documents, medicines, equipment to safer place
- c) Identify alternate place for setting up temporary hospitals.
- d) Assess chance of any COVID hospitals/ Covid Care Centres/ CFLTCs/ Laboratories being affected by flood/landslide - If yes, do alternate arrangements for shifting COVID hospital facility to another hospital in a comparatively safer location.

### **All health care institutions shall further strengthen the following**

- A well-functioning command-and-control system
- Strategies for clear, accurate and timely communication
- Well-developed safety and security procedures





- A mass-casualty triage protocol
- Surge capacity – defined as the ability of the health service to expand beyond normal capacity to meet increased demand for clinical care
- Availability of essential services that can continue in parallel with the activation of a hospital emergency response plan
- Systems for effective human resource management
- A plan to ensure continuity of the hospital supply and delivery chain

## **2. Preventing Disruption of treatment for those on medications for chronic diseases**

Mass displacements and damage caused by disasters can disrupt the treatment adherence support for patients on treatment for chronic diseases. Damages to drug stocks and treatment documents, cut-off access and infrastructure damages to service delivery sites, displacement of health staff and trained community volunteers, displacement of patients and disruption of routines that support adherence add to the severity of this disruption. Based on previous experiences the following actions may be initiated

1. List out all individuals on chronic disease medications in flood prone areas, ward wise. These include mainly people with diabetes mellitus, hypertension, cardiovascular diseases, Chronic Respiratory Diseases, TB and Leprosy.
2. Obtain a separate list of individuals on chronic procedures like dialysis, chemotherapy.
3. All the individuals need to be contacted now by the primary health care team to educate on
  - a) Keeping their medical records safe and carrying them along with them in case of displacements. Copying the records digitally shall also be promoted.
  - b) Keeping their medicines safe and carrying them along with them in case of displacements.
  - c) Specifically, whom to contact (3 contact numbers, 1 shall be control room) if in case they need medicines during displacements.



4. Know their plans for possible displacement and collect 3 phone numbers
5. Take steps to issue drugs for one month for all patients on chronic diseases
6. All health institutions to ensure an additional stock for 2 weeks above usual to be distributed to eligible people who lost access to their medicines.

### **3. Proactive Care of Vulnerable population groups**

- Pregnant women, People who are homebound, People who are bed bound, Elderly people staying alone, People with physical, sensory and cognitive impairments and Homeless people
- Link each of them with a healthy individual for any support now.
- Empower them to take a decision to identify their place of displacement in case of any natural calamity warning.

### **4. Communicable Disease Prevention & Control**

Strengthen Surveillance- All Private facility to be contacted for a stimulated surveillance and reporting of communicable diseases now itself

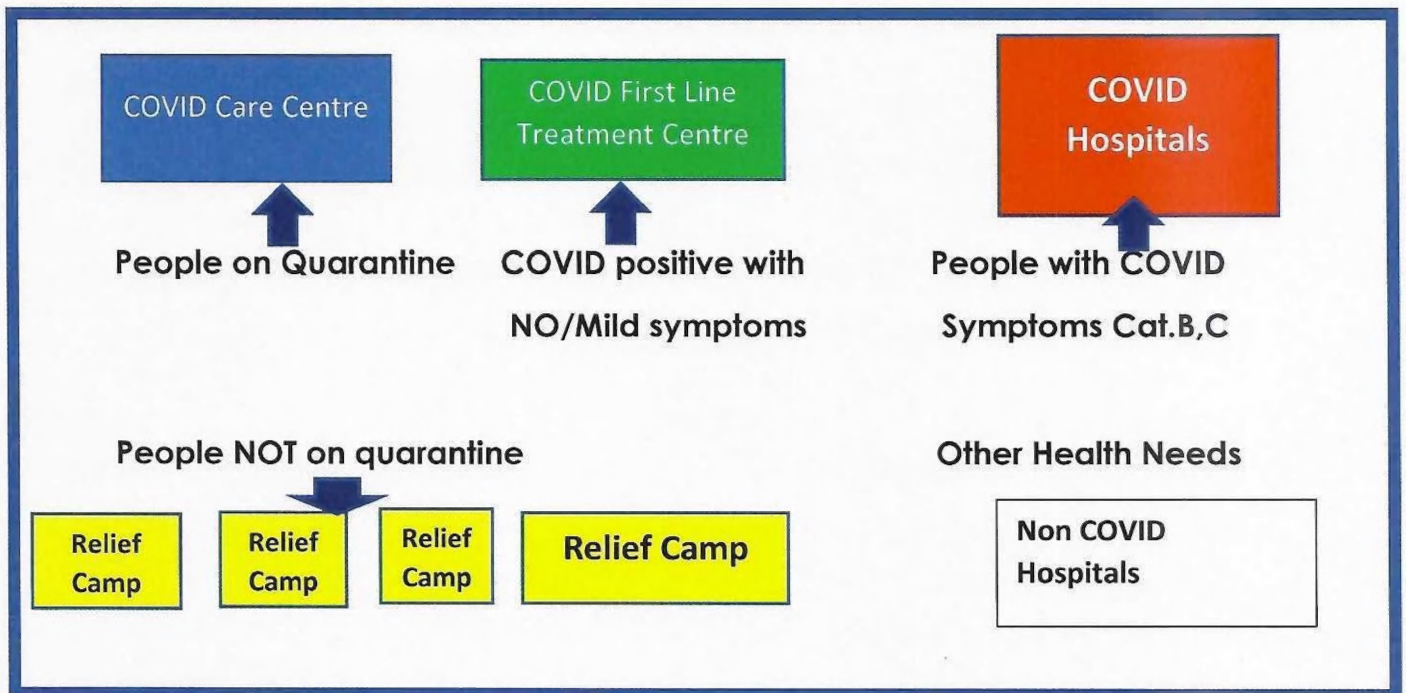
Ensure decentralised stock of Doxycycline for prophylaxis, ORS. Bleaching powder, chlorine tablets & Benzyl Penicillin, Face masks, Gloves, Hand sanitisers.

### **5. Relief Camps**

#### **Principle**

1. Separate relief camps are required for
  - a) People in Quarantine (With Individual Rooms)
  - b) Other people
2. Size of each relief camps to be made very small (20-30) to ensure social distancing and limit the spread of COVID in relief camps. **Plan for “large” number of “small” camps.**
3. Healthy Young adults (18-50 years) can be accommodated in exclusive large camps if there is a shortage of relief camp sites.
4. People may be empowered to move to relative's/ friends houses in safe locations well in advance.





Technically assist LSGD and Revenue department in identifying all such possible places, assess logical workflow and prepare a plan including map in all flood prone areas.

#### **Additional Measures at Relief Camps**

- Screening of respiratory symptoms are required at every relief camps twice daily. Anybody developing symptoms, even if mild need to be isolated, offered antigen test and shifted to COVID Hospital/ CFLTC based on protocol
- Facility for sanitising hands are required abundantly. Since flood water might not be safe, sanitisers need to be stocked well in advance
- All citizens in relief camps might need to wear face masks
- Preferences are for people in vulnerable groups to occupy single rooms, if available.
- Each relief camp to have one volunteer for ensuring the above-mentioned systems. Training for such volunteers may be initiated now itself.

#### **6. Transportation Arrangements**

Exclusive transportation services are required for people in quarantine and to transport those who develop symptoms.



People in quarantine need to be transported well in advance as transportation services may be hindered once flood water sets in. For transportation of people in quarantine- Double chambered, ambulances, double chambered auto, double chambered taxi, Own vehicles, Exclusive Boats, Exclusive Trucks may be required based on local situations.

Number of boats required will be high as people with symptoms either from relief camps or COVID Care centres need to be transported with precautions. Technically assist LSGD, Revenue department in planning transportation services.

### **7. Snake Bites**

Venomous snake bites Snake bites during floods are common.

- a) Stock adequate anti snake venom at hospitals
- b) Re-train Doctors and Health staff on management of snake bites

### **8. Volunteer Plan and Capacity Building**

Identify Health Volunteers in flood/landslide prone areas in the ratio of 1 Volunteer per 20 houses.

They need to be trained now in the following

- 1. First aid- Injury, Snake Bites, Burns, Poisoning
- 2. Basic Life Support
- 3. Relief Camp COVID protocols
- 4. Relief camp- Hygiene and sanitation protocol
- 5. Psychological Support
- 6. Identify those in need and ensuring continuity of medical care
- 7. Whom to contact during emergencies?

### **9. Psychological Support**

Training to Primary Health Care team and volunteers for psychological assessment and counselling.

### **10. Dead Bodies**

- a) Stock enough body bags
- b) Help LSGD to identify sites for temporary burial taking the hydrogeological and cultural conditions of the area into consideration.

### **11. Forecast the requirement of following items and maintain stock**



Doxycycline, Benzyl Penicillin, Masks, Sanitiser, ORS, Bleaching Powder, Chlorine Tab, NCD drugs (2 weeks extra), Anti-Snake Venom, Body Bag, Gloves

A district plan in this regard shall be prepared. Director of Health Services shall assess preparedness in this regard on a day to day basis.

*Lajon*  
Principal Secretary